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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,502	02/20/2004	Kevin B. Kline	7638 - 64985	7588
35973 7590 03/23/2009 BINGHAM MCHALE LLP 2700 MARKET TOWER 10 WEST MARKET STREET INDIANAPOLIS, IN 46204-4900				
EXAMINER NORMAN, MARC E				
ART UNIT 3744		PAPER NUMBER		
NOTIFICATION DATE 03/23/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

schantz@binghammchale.com  
pbailey@binghammchale.com  
djones@binghammchale.com

### Office Action Summary

**Application No.**

10/783,502

**Applicant(s)**

KLINE, KEVIN B.

**Examiner**

Marc E. Norman

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 22-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS) Paper No(s)/Mail Date 5/24/04
- 4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of claims 1-21 in the reply filed on 1/12/09 is acknowledged.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "restricting a majority of flow or hot fluid through the valve member". The Examiner suspects that Applicant intended the "or" to instead be "of". For the purpose of expediting prosecution, Examination on the merits below has been performed based on this interpretation. Claims 2-21 are rejected since they depend from claim 1.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7, 8, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Bendall et al. (U.S. Patent 4,607,788)

As per claim 1, Bendall et al. disclose a mixing valve comprising a hot fluid inlet 14, a cold fluid inlet 12, a mixed fluid outlet 5, a cavity 16, first and second seats (15a and 28), a thermostatic assembly 40, and a valve member responsive to the thermostatic assembly between a first position permitting at least one of the hot and cold fluids and a second position restricting a majority of the hot fluid (abstract, lines 8-15). (Note that Applicant's "1<sup>st</sup> position" corresponds to Bendall's "2<sup>nd</sup> position" and Applicant's "2<sup>nd</sup> position" corresponds to Bendall's "1<sup>st</sup> position".)

As per claim 3, Bendall et al. disclose seat 28 upstream of seat 15a and the valve member 20 engaging seat 15a during hot fluid flow (note Applicant's "1<sup>st</sup> seat" corresponds to Bendall's "2<sup>nd</sup> seat" and Applicant's "2<sup>nd</sup> seat" corresponds to Bendall's "1<sup>st</sup> seat".)

As per claims 7 and 8, Bendall et al. disclose the valve member being a cylindrical piston 20 and the upstream end engaging seat 28 during the cold water restriction position and the valve including a disc engaging seat 15a when in the opposite position (Figures 1-3).

As per claim 17, Bendall et al. disclose valve member 20 moving along a central axis and seat 28 extending inward toward the axis (Figures 1-3).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendall et al. in view of Allison.

As per claims 4, 5, and 9, Bendall et al. do not teach a weep opening in the valve member. However, the use of weep openings is generally old and well known in the valve arts as a means of protecting the valve by allowing a small amount of flow to pass through when the valve is closed. See for example the weep hole 41 of Allison. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply such a weep hole to the valve member of Bendall et al. for this same purpose.

Claims 10-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendall et al. in view of Kline (U.S. Patent 6,315,210).

As per claims 10-16 and 18-20, Bendall et al. do not teach the details of the hot liner inlet and poppet as recited. However, such details are already set forth in an earlier patent by Applicant (see Kline 6,315,210 B1). Kline teaches hot liner arrangement 146 and the general applicability of poppet type valves (see for example column 6, line 33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply these

teachings to the valve of Bendall et al. as a matter of mechanical expedient for the purpose of guiding and controlling fluid through the valve structure.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bendall et al. in view of Shiba et al.

As per claim 21, Bendall et al. do not teach the valve member having a plurality of spaced apart mixing fins. Shiba et al. teach a mixing valve wherein valve member 21 has a plurality of radially outward facing mixing fins 27a and 28a (see Figure 23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply such fins to the valve of Bendall et al. for the purpose of assisting the mixing of the different temperature fluids.

#### ***Allowable Subject Matter***

Claims 2 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN

/Marc E. Norman/  
Primary Examiner, Art Unit 3744